

**INFORMATION DISCLOSURE TRANSMITTAL**

Docket No. F0017/7000

Applicant: Jiankang Huang and Robert C. O'Handley
Serial No: 10/730,355
Filed: December 8, 2003
For: HIGH SENSITIVITY, PASSIVE MAGNETIC FIELD SENSOR AND
METHOD OF MANUFACTURE
Examiner: Not Yet Assigned
Art Unit: Not Yet Assigned

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 25, 2004.

Jan L. Mellen
Jan L. Mellen

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In keeping with the duty of candor and good faith owed to the Patent and Trademark Office, Applicant wishes to bring information to the attention of the Examiner. The filing of this statement shall not be construed as a representation that a search has been made or as an admission that this information is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

Enclosures

- ☒ A form PTO-1449 listing this information is attached
☒ A copy of each document cited is enclosed.
☐ Copies of the cited documents are not enclosed because

Fees

- ☒ This statement is filed before the later of (1) three months of (i) the filing of a national application or (ii) the entry date for the national stage of an international application or (2) the mailing date of a first office action on the merits. No fee is due.
- ☐ This statement is filed before the mailing date of a final office action, a notice of allowance or an action that otherwise closes prosecution, *and*
- ☐ The submission fee of \$180.00 under 37 CFR §1.17(p) is enclosed, *or*
- ☐ The following certification is made:
- ☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, *or*
- ☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign

application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

- ☐ This statement is filed on or before payment of the issue fee, the submission fee of \$180.00 under 37 CFR §1.17(p) is enclosed, *and*
- ☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, or
- ☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

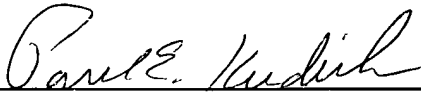
Payment

- ☐ A check in the amount of the submission fee is enclosed.
- ☐ Charge Account No. 02-3038 in the amount of the submission fee. A duplicate of this transmittal sheet is attached.

Authorization to Charge Additional Fees

- ☒ The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §1.16 and §1.17 required by the attached paper and during the entire pendency of this application to Account No. 02-3038.

Respectfully submitted,

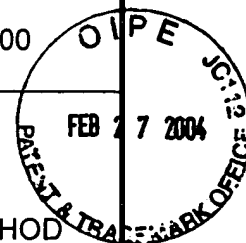


Date: 2/23/04

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**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT Sheet 2 of 3**

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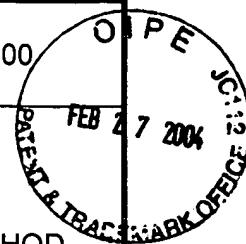
OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		LI, Yi-Qun, et al., "An Innovative Passive Solid-State Magnetic Sensor", www.sensorsmag.com, October 2000, Pages 52-54,	<input type="checkbox"/>
		MERMELSTEIN, Marc D., "A Magnetoelastic Metallic Glass Low-Frequency Magnetometer", IEEE Transactions on Magnetics, Vol. 28, No. 1, January 1992, Page 36-56.	<input type="checkbox"/>
		PRIETO, J. L., et al., "Magnetization Processes and Optimal Performance of Magnetostrictive Piezoelectric Sensors", Journal of Applied Physics, Vol. 79, No. 9, May 1, 1996, Pages 7099-7105.	<input type="checkbox"/>
		LEVITIN, R.Z., "Magnetostriction Measurements Under High Magnetic Fields By a Piezoelectric Transducer Glued on the Sample", Physica B 177 (1992) Pages 59-62, North - Holland, Elsevier Science Publishers B.V.	<input type="checkbox"/>
		MERMELSTEIN, M.D., "Magnetoelastic Amorphous Metal Fluxgate Magnetometer", Electronics Letters, 1986, Vol. 22, No. 10, Pages 525-526.	<input type="checkbox"/>
		PANTINAKIS, A., et al., "High-Sensitivity Low-Frequency Magnetometer Using Magnetostrictive Primary Sensing and Piezoelectric Signal Recovery", Electronics Letters, 1986, Vol. 22, No. 14, Pages 737-738.	<input type="checkbox"/>
		MERMELSTEIN, M.D., et al., "Low-Frequency Magnetic Field Detection With a Magnetostrictive Amorphous Metal Ribbon", Applied Physics Letter 51, August 1987, Pages 545-547.	<input type="checkbox"/>
		RYU, Jungho, et al., "Magnetolectric Properties in Piezoelectric and Magnetostrictive Laminate Composites", Japanese Journal of Applied Physics, Vol. 40, Part 1, No. 8, Pages 4948-4951, August 2001.	<input type="checkbox"/>
		LYNCH, B.J., et al., "A New Magnetic Sensor Technology", A New Magnetic Sensor Technology, Pages 13-20, presented in part at the Undersea Defence Technology Conference in London from February 7-9, 1990.	<input type="checkbox"/>

Examiner Signature		Date Considered	
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**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT Sheet 3 of 3**

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OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		GRIMES, C.A., et al., "Magnetoelastic Sensors For Remote Query Environmental Monitoring" Smart Mater. Struct. 8 (1999) Pages 639-646, 1999 IOP Publishing Ltd., Printed in UK.	<input type="checkbox"/>
		VAN SUCHTELEN, J., "Product Properties: A New Application of Composite Materials", Philips Res. Repts. 27, Pages 28-37, 1972	<input type="checkbox"/>
		SHIN, K.H., et al., "Preparation and Properties of Elastically Coupled Electro-Magnetic Elements With a Bonding Structure", IEEE Transactions on Magnetics, vol. 34, No. 4, July 1998, Pages 1324-1326.	<input type="checkbox"/>
		VAN DEN BOOMGAARD, J., et al., "Magnetoelectricity in Piezoelectric - Magnetostrictive Composites", Ferroelectrics, Vol. 10, Pages 295-298, 1976, Gordon and Breach Science Publishers Ltd., Printed in Great Britain.	<input type="checkbox"/>
		MORI, Kiyotaka, et al., "Magnetoelectric Coupling in Terfenol-D/Polyvinylidenedifluoride Composites", Applied Physics Letters, Volume 81, Number 1, July 1, 2002, Pages 100-101.	<input type="checkbox"/>
		VAN DEN BOOMGAARDS, J., et al., "Piezoelectric - Piezomagnetic Composites With Magnetoelectric Effect", Ferroelectrics, Vol. 14, Pages 727-728, 1976, Gordon and Breach Science Publishers Ltd., Printed in Great Britain.	<input type="checkbox"/>
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